

SEP 19 2005

Stephan Harris, Clerk  
Cheyenne

**UNITED STATES DISTRICT COURT  
DISTRICT OF WYOMING**

BIODIVERSITY CONSERVATION  
ALLIANCE and SIERRA CLUB,

Plaintiffs,

v.

MOUNTAIN CEMENT COMPANY,

Defendant.

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Case No. 04CV 361-B

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**EXPERT REBUTTAL REPORT OF BILL WILSON, P.E.  
ON BEHALF OF PLAINTIFFS**

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I have reviewed the reports of Thomas Keeler and Ralph Roberson and would like to provide the following information in response.

**Rebuttal Opinions and Estimations**

- It is my opinion that, if Mr. Keeler is correct that Kiln #2 is "more likely to have startups, shutdowns and malfunctions," an appropriately designed, sized, installed and operated baghouse would be a far better choice to control opacity during these events – and all other high-opacity events – compared to an electrostatic precipitator ("ESP"). ESP's only operate efficiently in a narrow temperature range and have difficulty capturing fine particulate matter (PM <10 microns). Baghouses can operate efficiently over a very wide temperature and kiln operational range, and are very effective at capturing fine particulate matter.
- Excess opacity emissions described by Mountain Cement as having been caused by auxiliary equipment being put into or taken out of service, and by work being performed in or on the process equipment, are not correctly classified by Mr. Keeler as having been caused by a startup or shutdown. Mountain Cement did not classify these activities as

startup or shutdown, and for good reason. Only startups and shutdowns of the kiln system are correctly classified as startups and shutdown for which an exception may apply to the Kiln #2 opacity limit.

- Excess emissions that are not timely reported as malfunctions, that are not the subject of a corrective action plan, that are repetitive in nature, that are not sudden, or that are preventable, are not correctly classified as having been caused by a malfunction.
- According to Mountain Cement's Compliance Assurance Monitoring ("CAM") plan for Kiln #2, when opacity increases, particulate matter emissions (in pounds) increase. This is common sense: opacity rises as less and less light is able to travel through a pollution plume of increasing density. On the basis of my experience with cement plant emissions, the established literature on the relationship between opacity and particulate matter,<sup>\*</sup> and Mountain Cement's Kiln #2 emissions data and CAM plan, it is more likely than not that when the average hourly opacity is greater than 25 percent for three hours or more at Kiln #2 if a Method 5 stack test had been conducted during that same period of time that test would show particulate matter emissions greater than 29.3 pounds per hour.

Mountain Cement's CAM plan for Kiln #2 includes a graph that confirms what all air pollution professionals know, and I would think what all lay people know as well: the more dense a pollution plume the more pollution it contains. In fact, this relationship is what supports Mountain Cement's representation that its CAM plan (that uses continuous opacity monitor data as a surrogate of particulate matter emissions) is a legitimate method for assuring compliance with the 29.3 lb./hour particulate matter limit at Kiln #2. Although Mountain Cement's graph ends at 20 percent opacity, there is no question that as opacity rises to 30, 40 and 50 percent particulate matter emissions are rising as well. Because Mountain Cement's graph shows particulate matter emissions are very close to 29.3 lbs./hour as measured by Method 5 stack tests when opacity is 20 percent, it is more likely than not that when emissions are at 25 percent opacity or greater, Method 5 stack tests performed at the same time would show particulate matter emissions in excess of 29.3 pounds per hour.

I am familiar with Method 5 stack tests that were taken at cement plants when the opacity of emissions was both above and below 20 percent opacity. As one would expect, the higher the opacity the greater the particulate matter emissions.

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<sup>\*</sup> See, for example, "Current Knowledge of Particulate Matter (PM) Continuous Emission Monitoring," September 8, 2000, Final Report, EPA-454/R-00-039.

- I declare under the penalty of perjury that the statements in this report are true and accurate to the best of my knowledge.

September 17, 2005  
Dated

Bill Wilson, P.E.  
Bill Wilson, P.E.